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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/627,645 | 07/28/2003 | Kazuhiro Kagami | 03500.017456 | 3604 |

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EXAMINER

LEE, HSIEN MING

| ART UNIT | PAPER NUMBER |
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2823

DATE MAILED: 03/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/627,645 | Applicant(s) KAGAMI ET AL. | |
| | Examiner Hsien-ming Lee | Art Unit 2823 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 11-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 11-13 is/are rejected.
- 7) ☒ Claim(s) 14-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

HSIEN-MING LEE
PRIMARY EXAMINER

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

3/15/06

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 11, 12 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Furuse et al. (US 2003/0026959).

In re claim 1, Furuse et al. teach the claimed method of forming an electrode A and B and wiring 2 and 3 (Fig.2), comprising:

- **applying** on a substrate 1 a photosensitive resin (*paragraphs [0028]~[0030] and lines 1-2 in paragraph [0033]*) containing a water-soluble (i.e. aqueous) photosensitive resin component and a water-soluble organic metallic compound of platinum, silver, palladium or copper (*lines 11-13 in paragraph [0032]*) (paragraph [0032] ~ [0034]);
- **exposing** the applied photosensitive resin to light irradiation (*lines 10-11 in paragraph [0042]*);
- **developing** the exposed photosensitive resin (*paragraph [0043] and Fig. 2*) to form on the substrate a base pattern A and B (i.e. a resin pattern, see *line 10 in paragraph [0044]*) containing at least the water-soluble metallic compounds;

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- **absorbing** an organic metallic compound (i.e. a water-soluble metal organic compound formed of platinum, silver, palladium or copper in an organic solvent-type solvent) into the base pattern A and B (*paragraphs [0023] and [0045]*); and
- **baking or burning** the base pattern A and B (*lines 1-6 in paragraph [0047]*) in which the organic metallic compound is absorbed at 400 °C to 600 °C (*lines 19-21 in paragraph [0047]*).

In re claim 11, Furuse et al. teach the claimed method of forming an image-forming apparatus including a plurality of electron-emitting devices and an image-forming member for forming an image by irradiation of electron beam emitted from the electron-emitting devices, comprising:

- forming a plurality of electron-emitting devices (paragraph [0022]) and the image-forming member (Fig.2), wherein at least one of an electrode A or B and a wiring 2 or 3 is formed by the method comprising:
- **applying** on a substrate 1 a photosensitive resin containing a water-soluble photosensitive resin component and a water-soluble metallic compound of platinum, silver, palladium or copper (paragraph [0032] ~ [0034]);
- **exposing** the applied photosensitive resin (paragraph [0042]);
- **developing** the exposed photosensitive resin to form on the substrate a base pattern A and B containing at least the water-soluble metallic compounds (paragraphs [0043] ~ [0044] and Fig. 2);

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- **absorbing** an organic metallic compound (i.e. a water-soluble metal organic compound formed of platinum, silver, palladium or copper in an organic solvent-type solvent) into the base pattern A and B (paragraph [0045]); and
- **baking or burning** the base pattern A and B in which the organic metallic compound is absorbed at 400 °C to 600 °C (paragraph [0047]).

In re claim 12, Furuse et al. teach the claimed method of forming an electro-conductive member (Fig.2), comprising:

- **forming** on a substrate 1 a precursor pattern A and B of the electro-conductive member containing at least metallic compound;
- **absorbing** an organic metallic compound (i.e. a water-soluble metal organic compound formed of platinum, silver, palladium or copper in an organic solvent-type solvent) into the precursor pattern A and B (paragraphs [0032] and [0045]); and
- **baking** the precursor pattern A and B that absorbed the organic metallic compound is absorbed at 400 °C to 600 °C (paragraph [0047]).

In re claim 13, Furuse et al. teach the claimed method of forming an electrode A and B and wiring 2 and 3 (Fig.2), comprising:

- **forming** on a substrate 1 a precursor pattern A and B of the electro-conductive member containing at least metallic compound;
- **absorbing** an organic metallic compound (i.e. a water-soluble metal organic compound formed of platinum, silver, palladium or copper in an organic solvent-type solvent) into the precursor pattern A and B (paragraphs [0032] and [0045]); and

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- **baking** the precursor pattern A and B that absorbed the organic metallic compound is absorbed at 400 °C to 600 °C (paragraph [0047]).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Furuse et al. (US '959) in view of Furuse et al (US '155).

In re claim 2, Furuse et al. ('155) remedy the deficiency in Furuse ('959) because Furuse ('155) suggest that the ratio is a consideration of increasing drying speed (col. 3, lines 63 through col. 4, line 7).

Therefore, it would have been obvious to one of the ordinary skill in the art, at the time the invention was made, to optimize the compound ration to increase the drying and/or baking speed, since the ratio variation is obvious to the ordinary skill in the art for optimizing the subsequent processing step,

In re claim 3, Furuse et al. (US '959) teach that the water-soluble metallic compound including rhodium, bismuth, ruthenium, vanadium, chromium, tin, lead or silicon (paragraphs [0105], [0110], [0117], [0119], [0122]).

In re claim 4, Furuse et al. (US '959) teach that the organic metallic compound is a complex and a ligand thereof is a nitrogen-containing compound (paragraph [0035]).

In re claim 5, Furuse et al. (US '959) teach that the nitrogen-containing compound has at most 8 carbon atoms (paragraph [0035]).

In re claim 6, Furuse et al. (US '959) teach that the organic metallic compound is a platinum complex (paragraph [0034]).

Double Patenting

5. Claim 13 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 12. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

In this case, the only difference between claim 12 and claim 13 is the term “electroconductive member” in claim 12 (lines 3-4) versus the term “electrode and wiring” in claim 13 (lines 3-4). However, “electrode and wiring” are considered “electroconductive member” as well. In addition, the entire claim body in both claim 12 and claim 13 do not specifically refer back to the corresponding preamble to reflect the differences between “electroconductive member” and “electrode and wiring.” Thus, claim 13 is substantially identical to claim 12.

Allowable Subject Matter

6. Claims 14-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record neither teaches or suggests that the organic metallic compound contains a metal *different* from that in the water-soluble metallic compound.

Response to Arguments

8. Applicant's arguments filed 3/2/2006 along with the RCE filing have been fully considered but they are not persuasive for reasons as follows.

Applicant argued that “Furuse ('959) does not disclose or suggest applying a water-soluble metallic compound to the substrate **prior to** the developing step or forming a precursor pattern containing at least a metallic compound” (see second paragraph on page 6) because the solution containing metal compound is applied **subsequent** to the developing step (last paragraph on page 6). (Emphasis added)

Contrarily, Furuse expressly teaches a **first step of applying** or coating a water-soluble metal organic compound formed of platinum, silver, palladium or copper in an aqueous solvent to an insulating substrate (paragraphs [0032] ~ [0034] and [0040]); a **second step of drying** (paragraph [0041]; a **third step of exposing** (paragraph [0042])' a **fourth step of developing** (paragraph [0043] ~ [0044]); a **fifth step of absorbing** (paragraph 0045)); and a **sixth step of baking or burning** (paragraph [0047]).

In the absorbing step, the already developed base pattern is again subjected to the solution containing organic metal components for the absorbing. In other word, Furuse **does** teach applying the water-soluble metallic compound to the substrate in the **first step prior to** the developing in the **fourth** step. Furthermore, Furuse also teaches absorbing the organic metallic compound into the base pattern in the **fifth** step that already has a metallic compound in a

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developed pattern as results of the first step all the way through the fourth step. (refers to first and second paragraphs on page 7 of applicants' remarks)

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hsien-ming Lee whose telephone number is 571-272-1863. The examiner can normally be reached on Tuesday-Thursday (7:30 ~ 6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith can be reached on 571-272-1907. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hsien-ming Lee
Primary Examiner
Art Unit 2823

March 15, 2006

HSIEN-MING LEE
PRIMARY EXAMINER

3/15/06